

Ambient Air Monitoring Report

***National Industries, Inc. Reclamation Area Site
Park Hills, Missouri***

***Prepared for
The Doe Run Company***

August 2012



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November 2, 2012

Mr. Mark Nations
The Doe Run Company
P.O. Box 1633
Desloge, Missouri 63601

Re: Ambient Air Monitoring Report – National Site

Dear Mr. Nations:

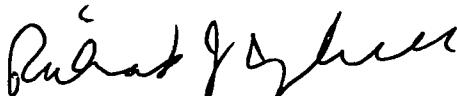
Please find attached the August 2012 “*Ambient Air Monitoring Report*” for The Doe Run Company at the National Industries, Inc. Reclamation Area Sites, located near Park Hills, Missouri.

This report will include the following:

- **Glossary of Terms** – Listing of the abbreviations used for each parameter and unit.
- **Ambient Air Quality Standards** – Lists the maximum allowable concentrations for the measured parameters.
- **TSP, Lead & PM₁₀ Particulate Summaries** – Includes the averages of each monitored parameter, which relates to the federal standards.
- **Particulate and Lead Analysis Spreadsheets**.
- **Lab Results (lead & cadmium)** – Lab reports from Inovatia Laboratories, LLC.
- **Meteorological Data Printouts** – This supplies printouts of each parameter.

Barr Engineering Company offers this report as an independent laboratory. This includes the weighing of filters, obtaining lead and cadmium analysis, compiling the data, and preparing the report. No interpretation of the data or analysis of the results is implied or intended. Should you have any questions regarding this report, please call.

Respectfully,



Richard J. Campbell, PE
Chemical Engineer
Senior Environmental Consultant

c: Kathy Rangen
Jason Gunter
Ty Morris
Kevin Lombardozzi

GLOSSARY OF TERMS

$\mu\text{g}/\text{m}^3$	Micrograms per Cubic Meter
mph	Miles per Hour
Wind Direction	Degrees from True North
TSP	Total Suspended Particulate
PM ₁₀	Particulate Matter - 10 Microns or Less
mmHg	Millimeters of Mercury

NATIONAL AMBIENT AIR QUALITY STANDARDS (NAAQS)

PM ₁₀ – Particulate Matter	24-Hour*	Annual Maximum	150 $\mu\text{g}/\text{m}^3$
Lead	Calendar Quarter	Arithmetic Mean	1.5 $\mu\text{g}/\text{m}^3$
Lead	Rolling 3-Month Average	Arithmetic Mean	0.15 $\mu\text{g}/\text{m}^3$

TSP (Total Suspended Particulate) – There are no Federal Standards that apply solely for TSP.

*This standard must be exceeded more than once a year to constitute a violation.



TSP and Lead Concentration Summary

**National
Park Hills, Missouri**

2012

Date	TSP Big River #4 ($\mu\text{g}/\text{m}^3$)	TSP Ozark #1 ($\mu\text{g}/\text{m}^3$)	TSP Soccer #2 ($\mu\text{g}/\text{m}^3$)	TSP Water Plant #3 ($\mu\text{g}/\text{m}^3$)	LEAD Big River #4 ($\mu\text{g}/\text{m}^3$)	LEAD Ozark #1 ($\mu\text{g}/\text{m}^3$)	LEAD Soccer #2 ($\mu\text{g}/\text{m}^3$)	LEAD Water Plant #3 ($\mu\text{g}/\text{m}^3$)
8/1/12	44	42	44	46	0.028	0.022	0.040	0.027
8/2/12	33	29	35	30	0.026	0.018	0.030	0.012
8/3/12	40	26	33	35	0.012	0.000	0.016	0.016
8/6/12	29	23	24	23	0.017	0.010	0.016	0.006
8/7/12	31	26	33	24	0.013	0.007	0.017	0.010
8/8/12	41	37	45	39	0.024	0.012	0.032	0.061
8/9/12	34	34	34	31	0.015	0.000	0.010	0.007
8/10/12	18	19	18	18	0.009	0.006	0.009	0.011
8/13/12	43	42	44	46	0.029	0.009	0.014	0.145
8/14/12	39	26	26	25	0.041	0.011	0.019	0.016
8/15/12	58	34	39	27	0.044	0.017	0.027	0.007
8/16/12	39	33	35	44	0.033	0.028	0.032	0.084
8/17/12	27	17	19	20	0.019	0.000	0.000	0.023
8/20/12	50	33	30	30	0.029	0.022	0.032	0.031
8/21/12	52	40	40	50	0.039	0.018	0.040	0.070
8/22/12	63	44	51	46	0.046	0.014	0.087	0.176
8/23/12	66	INVALID	96	62	0.063	0.000	0.254	0.039
8/24/12	48	43	55	47	0.019	0.014	0.052	0.037
8/27/12	35	28	35	30	0.030	0.018	0.040	0.027
8/28/12	48	31	38	31	0.017	0.005	0.020	0.010
8/29/12	60	32	44	31	0.048	0.000	0.030	0.012
8/30/12	33	25	33	28	0.012	0.000	0.016	0.014
8/31/12	15	13	16	13	0.000	0.000	0.000	0.000
Monthly Average	41	31	38	34	0.027	0.010	0.036	0.037
July 2012					0.035	0.013	0.039	0.034
Jun 2012					0.031	0.013	0.039	0.026
Rolling 3-month Average					0.03	0.01	0.04	0.03
					3-month Average Lead NAAQS $\mu\text{g}/\text{m}^3$ 0.15			

Please see the particulate analysis sheets for explanations of missing or invalid data.

Note: A summary of the Big River #4 sampler data is also included, because it was part of the QA plan.



Particulate Summary

National
Park Hills, Missouri

2012

Date	PM ₁₀ Big River #4 ($\mu\text{g}/\text{m}^3$)	PM ₁₀ Ozark #1 ($\mu\text{g}/\text{m}^3$)	PM ₁₀ Soccer #2 ($\mu\text{g}/\text{m}^3$)	PM ₁₀ Water Plant #3 ($\mu\text{g}/\text{m}^3$)	PM ₁₀ NAAQS ($\mu\text{g}/\text{m}^3$)
1-Aug	23	24	23	28	150
4-Aug	23	23	23	24	150
7-Aug	17	13	14	12	150
10-Aug	10	11	10	10	150
13-Aug	15	15	16	15	150
16-Aug	28	20	19	23	150
19-Aug	15	13	12	14	150
22-Aug	25	20	20	23	150
25-Aug	16	18	18	18	150
28-Aug	21	18	19	21	150
31-Aug	9	8	7	9	150
Monthly Average	18	17	16	18	

Please see the particulate analysis sheets for explanations of missing or invalid data.

Note: A summary of the Big River #4 sampler data is also included, because it was part of the QA plan.

Particulate and Lead Analysis



TSP and Lead Analysis

The Doe Run Company

SAMPLER ID P4557

Big River Site #4- Primary

Sample Date 2012	Filter ID	TSP		Lead		Ratio P_f/P_s	Q_s m^3/min	Q_{std} m^3/min	Elapsed Time hr	Sample Volume V_{std} m^3	Mass Concentrations	
		Net Wt. g	Filter Wt. μg	Total Wt. μg	T_s C	P_s mmHg	P_f mmHg				TSP	Lead
8/1/2012	8594828	0.0753	47	30	741.3	36.8	0.950	1.254	1.203	23.69	1710	44 0.028
8/2/2012	8594817	0.0560	45	30	739.3	36.8	0.950	1.254	1.199	23.72	1707	33 0.026
8/3/2012	8594808	0.0888	21	28	739.4	36.7	0.950	1.252	1.201	23.73	1710	40 0.012
8/6/2012	8607999	0.0507	30	25	746.1	36.2	0.951	1.247	1.222	23.56	1728	29 0.017
8/7/2012	8607989	0.0526	23	27	743.8	36.4	0.951	1.249	1.215	23.81	1720	31 0.013
8/8/2012	8607980	0.0707	42	28	742.8	36.5	0.951	1.250	1.210	23.68	1720	41 0.024
8/9/2012	8607971	0.0582	28	28	740.8	36.5	0.951	1.250	1.207	23.73	1718	34 0.015
8/10/2012	8607981	0.0313	15	22	742.6	35.8	0.952	1.240	1.224	23.35	1715	18 0.009
8/13/2012	8607951	0.0723	48	24	741.5	36.1	0.951	1.245	1.216	23.31	1701	43 0.029
8/14/2012	8607942	0.0875	72	22	743.9	35.8	0.952	1.240	1.227	23.61	1738	39 0.041
8/15/2012	8607934	0.1003	77	24	743.1	36.1	0.951	1.245	1.219	23.71	1734	58 0.044
8/16/2012	8607923	0.0875	56	28	742.4	36.2	0.951	1.247	1.215	23.71	1729	39 0.033
8/17/2012	8607915	0.0479	34	21	744.5	35.7	0.952	1.240	1.230	23.72	1750	27 0.019
8/20/2012	8607904	0.0877	51	21	743.8	35.7	0.952	1.239	1.229	23.74	1751	50 0.029
8/21/2012	8611295	0.0901	68	23	744.8	35.9	0.952	1.242	1.226	23.66	1740	52 0.039
8/22/2012	8611288	0.1098	80	24	745.1	36.1	0.952	1.245	1.222	23.58	1729	63 0.046
8/23/2012	8611277	0.1141	108	26	745.0	36.3	0.951	1.248	1.218	23.58	1722	66 0.063
8/24/2012	8611267	0.0827	32	28	744.8	36.3	0.951	1.248	1.218	23.55	1720	48 0.019
8/27/2012	8611258	0.0601	52	24	745.5	36.1	0.952	1.245	1.223	23.67	1737	35 0.030
8/28/2012	8611249	0.0842	30	24	745.6	36.0	0.952	1.244	1.225	23.68	1741	48 0.017
8/29/2012	8611240	0.1047	83	24	744.3	36.0	0.952	1.244	1.223	23.68	1737	60 0.048
8/30/2012	8611229	0.0564	20	28	743.8	36.3	0.951	1.248	1.216	23.52	1718	33 0.012
8/31/2012	8611219	0.0258	<10	25	742.8	36.1	0.951	1.245	1.218	23.71	1733	15 0.000

Data Captured	TSP	Lead
Valid Samples:	23	23
Scheduled Samples:	23	23
Percent Data Captured:	100%	100%

Monthly Average:	41	0.027
Standard Deviation:	13	0.015
Maximum:	66	0.063
Minimum:	15	0.000

NOTES

DEFINITIONS and CALCULATIONS

T_s = average temperature in degrees Celcius
 P_s = average station pressure in millimeters of mercury
 $P_t = ((\text{Temp in } ^\circ\text{K} \times \text{Temp Slope}) + \text{Temp Int.}) * 1.868$
 $P_f = (\text{Temp in } ^\circ\text{K} \times 0.0664) - (0.4213) * 1.868$
 P_f/P_s = pressure ratio of P_f and P_s = $1 - P_f/P_s$

Q_s = look up table volumetric flow rate
 Q_{std} = total sample volumetric flow rate corrected to standard conditions
 V_{std} = total sample volume corrected to standard conditions
TSP = mass concentration in $\mu\text{g}/\text{std m}^3$
Lead = mass concentration in $\mu\text{g}/\text{std m}^3$



TSP and Lead Analysis

The Doe Run Company

SAMPLER ID P2939

National Site #1 Ozark Insulation

Sample Date	Filter ID	TSP Filter Net Wt. g	Lead Total Wt. μg	T _{av} C	P _{av} mmHg	P _r mmHg	Ratio P _r /P _{av}	Q _a m ³ /min	Q _{std} m ³ /min	Elapsed Time hr	Sample Volume V _{std} m ³	Mass Concentrations TSP μg/m ³	Lead μg/m ³
8/1/2012	8594821	0.0720	37	30	741.3	36.8	0.950	1.250	1.199	23.61	1699	42	0.022
8/2/2012	8594812	0.0481	30	30	739.3	36.8	0.950	1.250	1.195	23.22	1685	29	0.018
8/3/2012	8594804	0.0450	< 10	29	739.4	36.7	0.950	1.248	1.197	23.78	1707	26	0.000
8/6/2012	8594801	0.0400	17	25	746.1	36.2	0.951	1.243	1.218	23.70	1732	23	0.010
8/7/2012	8607984	0.0450	12	27	743.8	36.4	0.951	1.245	1.211	23.70	1721	26	0.007
8/8/2012	8607975	0.0630	20	28	742.8	36.5	0.951	1.248	1.208	23.67	1713	37	0.012
8/9/2012	8607973	0.0572	< 10	28	740.6	36.5	0.951	1.246	1.203	23.18	1673	34	0.000
8/10/2012	8607956	0.0334	10	22	742.6	35.8	0.952	1.238	1.220	23.59	1727	19	0.006
8/13/2012	8607946	0.0720	15	24	741.5	36.1	0.951	1.241	1.212	23.69	1723	42	0.009
8/14/2012	8607937	0.0445	20	22	743.9	35.8	0.952	1.236	1.223	23.62	1733	26	0.011
8/15/2012	8607935	0.0584	29	24	743.1	36.1	0.951	1.241	1.215	23.65	1724	34	0.017
8/16/2012	8607918	0.0557	47	28	742.4	36.2	0.951	1.243	1.211	23.54	1711	33	0.028
8/17/2012	8607916	0.0297	< 10	21	744.5	35.7	0.952	1.238	1.226	23.58	1734	17	0.000
8/20/2012	8611299	0.0572	39	21	743.8	35.7	0.952	1.235	1.225	23.62	1738	33	0.022
8/21/2012	8611290	0.0695	32	23	744.6	35.8	0.952	1.238	1.222	23.61	1731	40	0.018
8/22/2012	8611281	0.0755	23	24	745.1	36.1	0.952	1.241	1.218	23.60	1725	44	0.014
8/23/2012	8611279	0.0338	< 10	28	745.0	36.3	0.951	1.244	1.214	10.95	798	INVALID	0.000
8/24/2012	8611263	0.0742	24	26	744.8	36.3	0.951	1.244	1.214	23.66	1723	43	0.014
8/27/2012	8611260	0.0485	31	24	745.5	36.1	0.952	1.241	1.219	23.66	1731	28	0.018
8/28/2012	8611250	0.0544	10	24	745.6	36.0	0.952	1.240	1.221	23.69	1736	31	0.006
8/29/2012	8611241	0.0545	< 10	24	744.3	36.0	0.952	1.240	1.219	23.64	1728	32	0.000
8/30/2012	8611224	0.0413	< 10	26	743.6	36.3	0.951	1.244	1.212	23.12	1681	25	0.000
8/31/2012	8611214	0.0229	< 10	25	742.8	36.1	0.951	1.241	1.214	23.60	1719	13	0.000

Data Captured	TSP	Lead
Valid Samples:	22	23
Scheduled Samples:	23	23
Percent Data Captured:	96%	100%

Monthly Average:	31	0.010
Standard Deviation:	9	0.009
Maximum:	44	0.028
Minimum:	13	0.000

NOTES

8/23/2012 - INVALID - Mechanical Failure

DEFINITIONS and CALCULATIONS

T_{av} = average temperature in degrees Celcius
P_{av} = average station pressure in millimeters of mercury
P_r = ((Temp in °Kelvin * Temp Slope))+Temp Int.)*1.868
P_t = (Temp in °Kelvin * 0.0684)+(-0.4213)*1.868
P_a = pressure ratio of P_r and P_{av} = 1 - P_r/P_{av}

Q_a = look up table volumetric flow rate
Q_{std} = total sample volumetric flow rate corrected to standard conditions
V_{std} = total sample volume corrected to standard conditions
TSP = mass concentration in μg/std m³
Lead = mass concentration in μg/std m³



TSP and Lead Analysis

The Doe Run Company

SAMPLER ID P4474

National Site #2 - Soccer Field

Sample Date	Filter ID	TSP Filter Net Wt.	Lead Total Wt.	T _w	P _w	P _t	Ratio	Q _a	Q _{std}	Elapsed Time	Sample Volume V _{std}	Mass Concentrations TSP	Lead
		g	µg	C	mmHg	mmHg	P _t /P _w	m ³ /min	m ³ /min	hr	m ³	µg/m ³	µg/m ³
8/1/2012	8594822	0.0731	67	30	741.3	36.8	0.950	1.235	1.185	23.45	1668	44	0.040
8/2/2012	8594813	0.0587	49	30	739.3	36.8	0.950	1.235	1.182	23.34	1655	35	0.030
8/3/2012	8594803	0.0544	26	29	739.4	36.7	0.950	1.234	1.184	23.26	1652	33	0.018
8/6/2012	8594802	0.0409	26	25	748.1	36.2	0.951	1.228	1.204	23.52	1700	24	0.018
8/7/2012	8807985	0.0557	29	27	743.8	36.4	0.951	1.231	1.197	23.82	1696	33	0.017
8/8/2012	8807976	0.0763	53	28	742.8	36.5	0.951	1.232	1.192	23.55	1885	45	0.032
8/9/2012	8807974	0.0571	17	28	740.8	36.5	0.951	1.232	1.189	23.21	1656	34	0.010
8/10/2012	8807987	0.0307	15	22	742.6	35.8	0.952	1.223	1.207	23.58	1708	18	0.009
8/13/2012	8807947	0.0750	23	24	741.5	36.1	0.951	1.227	1.199	23.70	1704	44	0.014
8/14/2012	8807938	0.0454	32	22	743.9	35.8	0.952	1.223	1.210	23.68	1719	28	0.019
8/15/2012	8807938	0.0858	45	24	743.1	36.1	0.951	1.227	1.201	23.33	1682	39	0.027
8/16/2012	8807919	0.0579	54	28	742.4	36.2	0.951	1.229	1.197	23.19	1686	35	0.032
8/17/2012	8807917	0.0332	< 10	21	744.5	35.7	0.952	1.222	1.212	23.81	1731	19	0.000
8/20/2012	8811300	0.0514	58	21	743.8	35.7	0.952	1.221	1.211	23.85	1734	30	0.032
8/21/2012	8811291	0.0674	68	23	744.6	35.9	0.952	1.224	1.208	23.30	1689	40	0.040
8/22/2012	8811282	0.0884	151	24	745.1	36.1	0.952	1.227	1.205	23.91	1728	51	0.087
8/23/2012	8811280	0.1624	428	28	745.0	36.3	0.951	1.230	1.200	23.43	1687	98	0.254
8/24/2012	8811262	0.0953	89	28	744.8	36.3	0.951	1.230	1.200	23.98	1726	55	0.052
8/27/2012	8811281	0.0595	68	24	745.5	36.1	0.952	1.227	1.208	23.35	1689	35	0.040
8/28/2012	8811251	0.0652	34	24	745.8	36.0	0.952	1.226	1.208	23.68	1716	38	0.020
8/29/2012	8811242	0.0750	52	24	744.3	36.0	0.952	1.226	1.205	23.59	1705	44	0.030
8/30/2012	8811225	0.0552	27	26	743.6	36.3	0.951	1.230	1.198	23.08	1657	33	0.016
8/31/2012	8811215	0.0283	< 10	25	742.8	36.1	0.951	1.227	1.201	23.49	1692	16	0.000

Data Captured	TSP	Lead
Valid Samples:	23	23
Scheduled Samples:	23	23
Percent Data Captured:	100%	100%

Monthly Average:	38	0.036
Standard Deviation:	16	0.051
Maximum:	96	0.254
Minimum:	16	0.000

NOTES

DEFINITIONS and CALCULATIONS

T_w = average temperature in degrees Celsius
 P_w = average station pressure in millimeters of mercury
 P_t = (((Temp in °Kelvin * Temp Slope))+Temp Int.)*1.0688
 P_t = ((Temp in °Kelvin * 0.0684)+(-0.4213))*1.0688
 P_t/P_w = pressure ratio of P_t and P_w = 1 - P_t/P_w

Q_a = look up table volumetric flow rate
 Q_{std} = total sample volumetric flow rate corrected to standard conditions
 V_{std} = total sample volume corrected to standard conditions
 TSP = mass concentration in µg/std m³
 Lead = mass concentration in µg/std m³



TSP and Lead Analysis

The Doe Run Company

SAMPLER ID P4475

Sample Date	Filter ID	TSP Net Wt. g	Lead		Ratio P_t/P_s	Q _s m ³ /min	Q _{std} m ³ /min	Elapsed Time hr	Sample Volume V _{std} m ³	National Site Water Plant #3	
			Total Wt. μg	T _w C						TSP μg/m ³	Lead μg/m ³
8/1/2012	8594824	0.0770	46	30	741.3	36.8	0.950	1.240	1.190	23.66	1689 46 0.027
8/2/2012	8594815	0.0513	20	30	739.3	36.8	0.950	1.240	1.188	23.73	1689 30 0.012
8/3/2012	8594806	0.0587	26	29	739.4	36.7	0.950	1.239	1.188	23.72	1691 35 0.016
8/6/2012	8807997	0.0386	11	25	748.1	36.2	0.951	1.233	1.209	23.64	1715 23 0.006
8/7/2012	8807987	0.0407	17	27	743.8	36.4	0.951	1.235	1.201	23.71	1709 24 0.010
8/8/2012	8807978	0.0865	103	28	742.8	36.5	0.951	1.237	1.197	23.65	1699 39 0.081
8/9/2012	8807969	0.0519	11	28	740.8	36.5	0.951	1.236	1.194	23.68	1698 31 0.007
8/10/2012	8807959	0.0304	19	22	742.6	35.8	0.952	1.227	1.212	23.70	1723 18 0.011
8/13/2012	8807949	0.0779	246	24	741.5	36.1	0.951	1.231	1.203	23.57	1701 46 0.145
8/14/2012	8807940	0.0434	27	22	743.9	35.8	0.952	1.227	1.214	23.70	1727 25 0.018
8/15/2012	8807932	0.0469	12	24	743.1	36.1	0.951	1.231	1.208	23.62	1709 27 0.007
8/16/2012	8807921	0.0747	143	28	742.4	36.2	0.951	1.233	1.202	23.68	1707 44 0.084
8/17/2012	8807913	0.0346	39	21	744.5	35.7	0.952	1.227	1.217	23.75	1734 20 0.023
8/20/2012	8807902	0.0512	53	21	743.8	35.7	0.952	1.226	1.216	23.68	1728 30 0.031
8/21/2012	8811293	0.0873	122	23	744.6	35.9	0.952	1.229	1.213	23.82	1733 50 0.070
8/22/2012	8811284	0.0795	302	24	745.1	36.1	0.952	1.232	1.209	23.59	1711 46 0.178
8/23/2012	8811275	0.1067	66	28	745.0	36.3	0.951	1.234	1.204	23.81	1721 62 0.039
8/24/2012	8811268	0.0801	64	28	744.8	36.3	0.951	1.234	1.204	23.79	1719 47 0.037
8/27/2012	8811258	0.0518	47	24	745.5	36.1	0.952	1.231	1.210	23.74	1724 30 0.027
8/28/2012	8811247	0.0539	18	24	745.8	36.0	0.952	1.230	1.212	23.75	1727 31 0.010
8/29/2012	8811238	0.0538	21	24	744.3	36.0	0.952	1.231	1.208	23.68	1717 31 0.012
8/30/2012	8811227	0.0468	24	28	743.6	36.3	0.951	1.234	1.202	23.49	1694 28 0.014
8/31/2012	8811217	0.0226	< 10	25	742.8	36.1	0.951	1.232	1.205	23.70	1713 13 0.000

Data Captured	TSP	Lead
Valid Samples:	23	23
Scheduled Samples:	23	23
Percent Data Captured:	100%	100%

Monthly Average:	34	0.037
Standard Deviation:	12	0.045
Maximum:	62	0.176
Minimum:	13	0.000

NOTES

DEFINITIONS and CALCULATIONS

T_w = average temperature in degrees Celcius

P_w = average station pressure in millimeters of mercury

P_t = ((Temp in °Kelvin * Temp Slope)) + Temp Int.) * 1.888

P_s = ((Temp in °Kelvin * 0.0684) + (-0.4213)) * 1.888

P_t/P_w = pressure ratio of P_t and P_w = 1 - P_t/P_w

Q_s = look up table volumetric flow rate

Q_{std} = total sample volumetric flow rate corrected to standard conditions

V_{std} = total sample volume corrected to standard conditions

TSP = mass concentration in μg/std m³

Lead = mass concentration in μg/std m³



TSP and Lead Analysis

The Doe Run Company

SAMPLER ID P6609

Big River Site #4 - QA

Sample Date 2012	Filter ID	TSP Filter Net Wt. g	Lead Total Wt. μg	T _{av} C	P _{av} mmHg	P _f mmHg	Ratio P _f /P _a	Q _a m ³ /min	Q _{std} m ³ /min	Elapsed Time hr	Sample Volume V _{std} m ³	Mass Concentrations TSP μg/m ³	Lead μg/m ³
8/2/2012	8594827	0.0594	52	30	739.3	36.8	0.950	1.245	1.191	23.64	1690	35	0.031
8/7/2012	8608000	0.0518	17	27	743.8	36.4	0.951	1.240	1.206	23.61	1708	30	0.010
8/9/2012	8607972	0.0577	28	28	740.6	36.5	0.951	1.241	1.199	23.62	1699	34	0.017
8/14/2012	8607952	0.0886	57	22	743.9	35.8	0.952	1.232	1.219	23.58	1725	40	0.033
8/16/2012	8607924	0.0666	57	26	742.4	36.2	0.951	1.238	1.207	23.64	1711	39	0.033
8/21/2012	8607905	0.0851	72	23	744.6	35.9	0.952	1.234	1.218	23.62	1726	49	0.042
8/23/2012	8611278	0.1243	110	26	745.0	36.3	0.951	1.239	1.209	23.59	1712	73	0.064
8/28/2012	8611259	0.0847	29	24	745.6	36.0	0.952	1.236	1.217	23.63	1728	49	0.017
8/30/2012	8611230	0.0578	19	26	743.6	36.3	0.951	1.239	1.207	23.43	1697	34	0.011

Valid Samples:	9	9
Scheduled Samples:	9	9
Percent Data Captured:	100%	100%

Monthly Average:	43	0.029
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Standard Deviation:	13	0.017
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Maximum:	73	0.064
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Minimum:	30	0.010
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NOTES

DEFINITIONS and CALCULATIONS

T_{av} = average temperature in degrees Celcius

Q_a = look up table volumetric flow rate

P_{av} = average station pressure in millimeters of mercury

Q_{std} = total sample volumetric flow rate corrected to standard conditions

P_f = (((Temp in °Kelvin * Temp Slope))+Temp Int.))*1.868

V_{std} = total sample volume corrected to standard conditions

P_f = ((Temp in °Kelvin * 0.0664)+(-0.4213))*1.868

TSP = mass concentration in μg/std m³

P_f/P_a = pressure ratio of P_f and P_{av} = 1 - P_f/P_{av}

Lead = mass concentration in μg/std m³



PM₁₀ Analysis

The Doe Run Company

SAMPLER ID P2952

Big River Site #4- Primary

Sample Date 2012	Filter ID	PM10 Net Wt. g	Filter T _{av} C	P _{av} mmHg	P _f mmHg	Ratio P _f /P _{av}	Q _a m ³ /min	Q _{std} m ³ /min	Elapsed Time hr	Sample Volume V _{std} m ³	Mass Conc. PM ₁₀ µg/m ³
8/1/2012	264651	0.0359	30	741.3	36.8	0.950	1.158	1.111	23.63	1575	23
8/4/2012	264641	0.0358	28	741.6	36.5	0.951	1.155	1.116	23.73	1589	23
8/7/2012	264631	0.0278	27	743.8	36.4	0.951	1.154	1.122	23.66	1592	17
8/10/2012	264621	0.0168	22	742.6	35.8	0.952	1.148	1.131	23.70	1609	10
8/13/2012	264613	0.0237	24	741.5	36.1	0.951	1.150	1.124	23.69	1597	15
8/16/2012	264602	0.0446	26	742.4	36.2	0.951	1.151	1.122	23.68	1594	28
8/19/2012	264093	0.0242	21	742.7	35.7	0.952	1.145	1.132	23.68	1609	15
8/22/2012	264084	0.0407	24	745.1	36.1	0.952	1.150	1.129	23.61	1600	25
8/25/2012	264073	0.0252	24	744.5	36.0	0.952	1.149	1.130	23.71	1607	16
8/28/2012	264064	0.0335	24	745.6	36.0	0.952	1.149	1.132	23.60	1603	21
8/31/2012	264055	0.0145	25	742.8	36.1	0.951	1.150	1.125	23.69	1600	9

Valid Samples: 11

Monthly Average: 18

Scheduled Samples: 11

Standard Deviation: 6

Percent Data Captured: 100%

Maximum: 28

Minimum: 9

NOTES

DEFINITIONS and CALCULATIONS

T_{av} = average temperature in degrees Celsius

P_{av}/P_s = pressure ratio of P_f and P_{av} = 1 - P_f/P_{av}

P_{av} = average station pressure in millimeters of mercury

Q_a = look up table volumetric flow rate

P_f = ((Temp in °Kelvin * Temp Slope))+Temp Int.)*1.868

Q_{std} = sample volumetric flow rate corrected to standard conditions

P_f = ((Temp in °Kelvin * 0.0864)+(-0.4213))*1.868

V_{std} = sample volume corrected to standard conditions



PM₁₀ Analysis

The Doe Run Company

SAMPLER ID P2950										National Site #1 Ozark Insulation														
Sample Date 2012	Filter ID	Net Wt. g	PM10				Ratio P_o/P_s	Q _s m ³ /min	Q _{std} m ³ /min	Elapsed Time hr	Sample Volume m ³	Mass Conc. PM ₁₀ µg/m ³												
			T _{av} C	P _{av} mmHg	P _f mmHg	Ratio P_o/P_s																		
8/1/2012	264649	0.0372	30	741.3	36.8	0.950	1.156	1.109	23.70	1577	24													
8/4/2012	264646	0.0361	28	741.6	36.5	0.951	1.153	1.114	23.66	1581	23													
8/7/2012	264629	0.0209	27	743.8	36.4	0.951	1.151	1.120	23.75	1595	13													
8/10/2012	264620	0.0168	22	742.6	35.8	0.952	1.144	1.129	23.67	1603	11													
8/13/2012	264618	0.0245	24	741.5	36.1	0.951	1.148	1.121	23.73	1597	15													
8/16/2012	264601	0.0320	26	742.4	36.2	0.951	1.149	1.120	23.67	1591	20													
8/19/2012	264091	0.0205	21	742.7	35.7	0.952	1.143	1.130	23.73	1609	13													
8/22/2012	264089	0.0325	24	745.1	36.1	0.952	1.148	1.127	23.70	1602	20													
8/25/2012	264072	0.0287	24	744.5	36.0	0.952	1.147	1.127	23.71	1604	18													
8/28/2012	264062	0.0286	24	745.6	36.0	0.952	1.147	1.130	23.77	1611	18													
8/31/2012	264080	0.0131	25	742.8	36.1	0.951	1.148	1.123	23.64	1593	8													
Valid Samples: 11			Scheduled Samples: 11			Percent Data Captured: 100%			Monthly Average: 17															
									Standard Deviation: 5															
									Maximum: 24															
									Minimum: 8															
NOTES																								
DEFINITIONS and CALCULATIONS																								
T _{av} = average temperature in degrees Celcius							P _o /P _s = pressure ratio of P _f and P _{av} = 1 - P _f /P _{av}																	
P _{av} = average station pressure in millimeters of mercury							Q _s = look up table volumetric flow rate																	
P _f = ((Temp in °Kelvin * Temp Slope))+Temp Int.)*1.868							Q _{std} = sample volumetric flow rate corrected to standard conditions																	
P _f = ((Temp in °Kelvin * 0.0664)+(-0.4213))*1.868							V _{std} = sample volume corrected to standard conditions																	



PM₁₀ Analysis

The Doe Run Company

SAMPLER ID P2949										National Site #2 - Soccer Field													
Sample Date 2012	Filter ID	PM10		T _{av} C	P _{av} mmHg	P _f mmHg	Ratio P _f /P _{av}	Q _a m ³ /min	Q _{std} m ³ /min	Elapsed Time hr	Sample Volume V _{std} m ³	Mass Conc. PM ₁₀ µg/m ³											
		Filter Net Wt. g	C																				
8/1/2012	264648	0.0366	30	741.3	36.8	0.950	1.153	1.106	23.76	1577	23												
8/4/2012	264645	0.0358	28	741.6	36.5	0.951	1.150	1.111	23.76	1583	23												
8/7/2012	264628	0.0228	27	743.8	36.4	0.951	1.148	1.117	23.74	1591	14												
8/10/2012	264619	0.0159	22	742.6	35.8	0.952	1.141	1.126	23.80	1609	10												
8/13/2012	264617	0.0250	24	741.5	36.1	0.951	1.145	1.118	23.75	1594	16												
8/16/2012	264100	0.0311	26	742.4	36.2	0.951	1.146	1.117	23.77	1593	19												
8/19/2012	264090	0.0198	21	742.7	35.7	0.952	1.140	1.127	23.77	1608	12												
8/22/2012	264088	0.0317	24	745.1	36.1	0.952	1.145	1.124	23.74	1601	20												
8/25/2012	264071	0.0287	24	744.5	36.0	0.952	1.144	1.124	23.78	1603	18												
8/28/2012	264061	0.0298	24	745.6	36.0	0.952	1.144	1.127	23.72	1604	19												
8/31/2012	264059	0.0115	25	742.8	36.1	0.951	1.145	1.120	23.77	1597	7												
Valid Samples: 11				Monthly Average: 18																			
Scheduled Samples: 11				Standard Deviation: 5																			
Percent Data Captured: 100%				Maximum: 23																			
				Minimum: 7																			
NOTES																							
DEFINITIONS and CALCULATIONS																							
T _{av} = average temperature in degrees Celcius							P _f /P _{av} = pressure ratio of P _f and P _{av} = 1 - P _f /P _{av}																
P _{av} = average station pressure in millimeters of mercury							Q _a = look up table volumetric flow rate																
P _f = ((Temp in °Kelvin * Temp Slope))+Temp Int.)*1.868							Q _{std} = sample volumetric flow rate corrected to standard conditions																
P _f = ((Temp in °Kelvin * 0.0684)+(-0.4213))*1.868							V _{std} = sample volume corrected to standard conditions																



PM₁₀ Analysis

The Doe Run Company

National Site #3 - Water Plant											
Sampler ID P2951											
Sample Date 2012	Filter ID	PM10						Elapsed Time hr	Sample Volume V_{std} m ³	Mass Conc. PM ₁₀ $\mu\text{g}/\text{m}^3$	
		Net Wt. g	T _{av} C	P _{av} mmHg	P _f mmHg	Ratio P _f /P _{av}	Q _a m ³ /min	Q _{std} m ³ /min			
8/1/2012	264653	0.0431	30	741.3	36.8	0.950	1.159	1.112	23.41	1562	28
8/4/2012	264643	0.0370	28	741.6	36.5	0.951	1.156	1.117	23.49	1574	24
8/7/2012	264633	0.0194	27	743.8	36.4	0.951	1.155	1.123	23.47	1581	12
8/10/2012	264623	0.0168	22	742.6	35.8	0.952	1.147	1.132	23.51	1597	10
8/13/2012	264815	0.0233	24	741.5	36.1	0.951	1.151	1.125	23.48	1584	15
8/16/2012	264804	0.0368	26	742.4	36.2	0.951	1.153	1.123	23.46	1581	23
8/19/2012	264095	0.0217	21	742.7	35.7	0.952	1.147	1.134	23.47	1598	14
8/22/2012	264088	0.0361	24	745.1	36.1	0.952	1.151	1.130	23.45	1590	23
8/25/2012	264075	0.0281	24	744.5	36.0	0.952	1.150	1.131	23.49	1593	18
8/28/2012	264068	0.0334	24	745.6	36.0	0.952	1.150	1.133	23.51	1598	21
8/31/2012	264057	0.0151	25	742.8	36.1	0.951	1.151	1.128	23.48	1587	9

Valid Samples: 11	Monthly Average: 18
Scheduled Samples: 11	Standard Deviation: 6
Percent Data Captured: 100%	Maximum: 28
	Minimum: 9

NOTES

DEFINITIONS and CALCULATIONS

T_{av} = average temperature in degrees Celcius
 P_{av} = average station pressure in millimeters of mercury
 $P_f = ((\text{Temp in } ^\circ\text{Kelvin} * \text{Temp Slope}) + \text{Temp Int.}) * 1.868$
 $P_f = ((\text{Temp in } ^\circ\text{Kelvin} * 0.0664) + (-0.4213)) * 1.868$

P_f/P_{av} = pressure ratio of P_f and P_{av} = $1 - P_f/P_{av}$
 Q_a = look up table volumetric flow rate
 Q_{std} = sample volumetric flow rate corrected to standard conditions
 V_{std} = sample volume corrected to standard conditions



PM₁₀ Analysis

The Doe Run Company

Big River Site #4 - QA												
SAMPLER ID	P1019	PM10 Filter	Net Wt.	T _{av}	P _{av}	P _f	Ratio	Q _a	Q _{std}	Elapsed Time	Sample Volume	Mass Conc. PM ₁₀
Sample Date	Filter ID	g	C	mmHg	mmHg	P _f /P _a	m ³ /min	m ³ /min	m ³ /min	hr	V _{std} m ³	μg/m ³
8/1/2012	264650	0.0452	30	741.3	36.8	0.950	1.172	1.124	23.84	1608		28
8/7/2012	264630	0.0280	27	743.8	36.4	0.951	1.167	1.135	23.86	1625		16
8/13/2012	264812	0.0258	24	741.5	36.1	0.951	1.163	1.137	23.84	1626		16
8/19/2012	264092	0.0243	21	742.7	35.7	0.952	1.159	1.146	23.86	1640		15
8/25/2012	264083	0.0308	24	744.5	36.0	0.952	1.163	1.143	23.87	1637		19
8/31/2012	264063	0.0163	25	742.8	36.1	0.951	1.164	1.139	23.88	1631		10
Valid Samples:	6										Monthly Average:	17
Scheduled Samples:	6										Standard Deviation:	6
Percent Data Captured:	100%										Maximum:	28
											Minimum:	10

NOTES

DEFINITIONS and CALCULATIONS

T_{av} = average temperature in degrees Celcius

P_{av} = average station pressure in millimeters of mercury

P_f = ((Temp in °Kelvin * Temp Slope))+Temp Int.)*1.868

P_f = ((Temp in °Kelvin * 0.0664)+(-0.4213))*1.868

P_f/P_a = pressure ratio of P_f and P_{av} = 1 - P_f/P_{av}

Q_a = look up table volumetric flow rate

Q_{std} = sample volumetric flow rate corrected to standard conditions

V_{std} = sample volume corrected to standard conditions

Lab Results (Lead and Cadmium)



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ANALYSIS REPORT

Client Information:

Barr Engineering Company
7390 Ohms Lane
Edina, MN 55439-2330

Chain of Custody No.: 12-0823
Date Received: 08/22/12
Analysis Method: 40 CFR §50
Appendix G

Location	Leadwood
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Lab No.	Filter ID	Date	Site	µg Pb/Filter	µg Cd/Filter	Date - Analyst
124169	8594828	08/01/12	#1 South - Wortham	21	< 10	08/30/12 - DS
124170	8594830	08/01/12	#2 East - Office	21	< 10	08/30/12 - DS
124171	8594829	08/01/12	#3 North - School	17	< 10	08/30/12 - DS
124172	8594818	08/02/12	#1 South - Wortham	< 10	< 10	08/30/12 - DS
124173	8594820	08/02/12	#2 East - Office	< 10	< 10	08/30/12 - DS
124174	8594819	08/02/12	#3 North - School	< 10	< 10	08/30/12 - DS
124175	8594809	08/03/12	#1 South - Wortham	11	< 10	08/30/12 - DS
124176	8594811	08/03/12	#2 East - Office	23	< 10	08/29/12 - DS
124177	8594810	08/03/12	#3 North - School	11	< 10	08/29/12 - DS

Submitted by:

Digitally signed by Jennifer
Vandelicht
DN: cn=Jennifer Vandelicht,
o=Inovatia Laboratories, LLC,
ou=Quality Assurance,
email=jvandelicht@inovatia.com,
c=US
Date: 2012.08.31 14:28:23 -05'00'

8/31/12

Date

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ANALYSIS REPORT

Client Information:

Barr Engineering Company
7390 Ohms Lane
Edina, MN 55439-2330

Chain of Custody No.: 12-0838
Date Received: 08/28/12
Analysis Method: 40 CFR §50
Appendix G

Location Leadwood

Lab No.	Filter ID	Date	Site	µg Pb/Filter	µg Cd/Filter	Date - Analyst
124266	8607993	08/06/12	#1 South - Wortham	< 10	< 10	08/29/12 - DS
124267	8607995	08/06/12	#2 East - Office	< 10	< 10	08/29/12 - DS
124268	8607994	08/06/12	#3 North - School	< 10	< 10	08/29/12 - DS
124269	8607990	08/07/12	#1 South - Wortham	< 10	< 10	08/29/12 - DS
124270	8607992	08/07/12	#2 East - Office	< 10	< 10	08/29/12 - DS
124271	8607991	08/07/12	#3 North - School	< 10	< 10	08/29/12 - DS
124272	8607981	08/08/12	#1 South - Wortham	13	< 10	08/29/12 - DS
124273	8607983	08/08/12	#2 East - Office	20	< 10	08/29/12 - DS
124274	8607982	08/08/12	#3 North - School	13	< 10	08/30/12 - DS
124275	8607965	08/09/12	#1 South - Wortham	< 10	< 10	08/30/12 - DS
124276	8607967	08/09/12	#2 East - Office	< 10	< 10	08/30/12 - DS
124277	8607966	08/09/12	#3 North - School	< 10	< 10	08/30/12 - DS
124278	8607962	08/10/12	#1 South - Wortham	< 10	< 10	08/30/12 - DS
124279	8607964	08/10/12	#2 East - Office	< 10	< 10	08/30/12 - DS
124280	8607963	08/10/12	#3 North - School	< 10	< 10	08/30/12 - DS

Submitted by:

Digitally signed by Jennifer Wiedelich
on behalf of Inovatia, Inc., Analytical
Laboratories, LLC, non-Quality Assurance,
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8/31/12

Date

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ANALYSIS REPORT

Client Information:

Barr Engineering Company
7390 Ohms Lane
Edina, MN 55439-2330

Chain of Custody No.: 12-0850
Date Received: 08/30/12
Analysis Method: 40 CFR §50
Appendix G

Location	Leadwood
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Lab No.	Filter ID	Date	Site	µg Pb/Filter	µg Cd/Filter	Date - Analyst
124326	8607953	08/13/12	#1 South - Wortham	13	< 10	09/05/12 - DS
124327	8607955	08/13/12	#2 East - Office	< 10	< 10	09/05/12 - DS
124328	8607954	08/13/12	#3 North - School	< 10	< 10	09/05/12 - DS
124329	8607943	08/14/12	#1 South - Wortham	18	< 10	09/05/12 - DS
124330	8607945	08/14/12	#2 East - Office	< 10	< 10	09/05/12 - DS
124331	8607944	08/14/12	#3 North - School	< 10	< 10	09/05/12 - DS
124332	8607928	08/15/12	#1 South - Wortham	< 10	< 10	09/05/12 - DS
124333	8607930	08/15/12	#2 East - Office	< 10	< 10	09/05/12 - DS
124334	8607929	08/15/12	#3 North - School	< 10	< 10	09/05/12 - DS
124335	8607925	08/16/12	#1 South - Wortham	14	< 10	09/05/12 - DS
124336	8607927	08/16/12	#2 East - Office	11	< 10	09/05/12 - DS
124337	8607926	08/16/12	#3 North - School	< 10	< 10	09/05/12 - DS
124338	8607909	08/17/12	#1 South - Wortham	< 10	< 10	09/05/12 - DS
124339	8607911	08/17/12	#2 East - Office	< 10	< 10	09/05/12 - DS
124340	8607910	08/17/12	#3 North - School	< 10	< 10	09/05/12 - DS

Submitted by:

Jennifer Vandelicht
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ANALYSIS REPORT

Client Information:

Barr Engineering Company
7390 Ohms Lane
Edina, MN 55439-2330

Chain of Custody No.: 12-0921
Date Received: 09/12/12
Analysis Method: 40 CFR §50
Appendix G

Location Leadwood

Lab No.	Filter ID	Date	Site	µg Pb/Filter	µg Cd/Filter	Date - Analyst
124499	8607906	08/20/12	#1 South - Wortham	18	< 10	09/19/12 - DS
124500	8607908	08/20/12	#2 East - Office	16	< 10	09/19/12 - DS
124501	8607907	08/20/12	#3 North - School	10	< 10	09/19/12 - DS
124502	8611296	08/21/12	#1 South - Wortham	15	< 10	09/19/12 - DS
124503	8611298	08/21/12	#2 East - Office	18	< 10	09/19/12 - DS
124504	8611297	08/21/12	#3 North - School	13	< 10	09/19/12 - DS
124505	8611287	08/22/12	#1 South - Wortham	13	< 10	09/19/12 - DS
124506	8611289	08/22/12	#2 East - Office	14	< 10	09/19/12 - DS
124507	8611288	08/22/12	#3 North - School	14	< 10	09/24/12 - DS
124508	8611271	08/23/12	#1 South - Wortham	11	< 10	09/24/12 - DS
124509	8611273	08/23/12	#2 East - Office	13	< 10	09/19/12 - DS
124510	8611272	08/23/12	#3 North - School	< 10	< 10	09/19/12 - DS
124511	8611270	08/24/12	#1 South - Wortham	< 10	< 10	09/19/12 - DS
124512	8611268	08/24/12	#2 East - Office	< 10	< 10	09/19/12 - DS
124513	8611269	08/24/12	#3 North - School	< 10	< 10	09/19/12 - DS

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ANALYSIS REPORT

Client Information:

Barr Engineering Company
7390 Ohms Lane
Edina, MN 55439-2330

Chain of Custody No.: 12-0922
Date Received: 09/14/12
Analysis Method: 40 CFR §50
Appendix G

Location Leadwood

Lab No.	Filter ID	Date	Site	µg Pb/Filter	µg Cd/Filter	Date - Analyst
124547	8611252	08/27/12	#1 South - Wortham	34	< 10	09/27/12 - DS
124548	8611254	08/27/12	#2 East - Office	42	< 10	09/27/12 - DS
124549	8611253	08/27/12	#3 North - School	29	< 10	09/27/12 - DS
124550	8611243	08/28/12	#1 South - Wortham	14	< 10	09/27/12 - DS
124551	8611245	08/28/12	#2 East - Office	14	< 10	09/27/12 - DS
124552	8611244	08/28/12	#3 North - School	14	< 10	09/27/12 - DS
124553	8611234	08/29/12	#1 South - Wortham	18	< 10	09/27/12 - DS
124554	8611236	08/29/12	#2 East - Office	21	< 10	09/27/12 - DS
124555	8611235	08/29/12	#3 North - School	< 10	< 10	09/27/12 - DS
124556	8611231	08/30/12	#1 South - Wortham	< 10	< 10	09/27/12 - DS
124557	8611233	08/30/12	#2 East - Office	51	< 10	09/27/12 - DS
124558	8611232	08/30/12	#3 North - School	14	< 10	09/27/12 - DS
124559	8611220	08/31/12	#1 South - Wortham	< 10	< 10	09/27/12 - DS
124560	8611222	08/31/12	#2 East - Office	< 10	< 10	09/27/12 - DS
124561	8611221	08/31/12	#3 North - School	< 10	< 10	09/27/12 - DS

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ANALYSIS REPORT

Client Information:

Barr Engineering Company
7390 Ohms Lane
Edina, MN 55439-2330

Chain of Custody No.: 12-0823**Date Received:** 08/22/12**Analysis Method:** 40 CFR §50
Appendix G**Location****Big River**

Lab No.	Filter ID	Date	Site	µg Pb/Filter	µg Cd/Filter	Date - Analyst
124156	8594826	08/01/12	#4 Primary	47	< 10	08/24/12 - DS
124157	8594817	08/02/12	#4 Primary	45	< 10	08/24/12 - DS
124158	8594827	08/02/12	#4 QA	52	< 10	08/24/12 - DS
124159	8594808	08/03/12	#4 Primary	21	< 10	08/24/12 - DS

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ANALYSIS REPORT

Client Information:

Barr Engineering Company
7390 Ohms Lane
Edina, MN 55439-2330

Chain of Custody No.: 12-0838

Date Received: 08/28/12

Analysis Method: 40 CFR §50
Appendix G

Location Big River

Lab No.	Filter ID	Date	Site	µg Pb/Filter	µg Cd/Filter	Date - Analyst
124244	8607999	08/06/12	#4 Primary	30	< 10	08/29/12 - DS
124245	8607989	08/07/12	#4 Primary	23	< 10	08/29/12 - DS
124246	8608000	08/07/12	#4 QA	17	< 10	08/29/12 - DS
124247	8607980	08/08/12	#4 Primary	42	< 10	08/29/12 - DS
124248	8607971	08/09/12	#4 Primary	26	< 10	08/29/12 - DS
124249	8607972	08/09/12	#4 QA	28	< 10	08/29/12 - DS
124250	8607961	08/10/12	#4 Primary	15	< 10	08/29/12 - DS

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ANALYSIS REPORT

Client Information:

Barr Engineering Company
7390 Ohms Lane
Edina, MN 55439-2330

Chain of Custody No.: 12-0850
Date Received: 08/30/12
Analysis Method: 40 CFR §50
Appendix G

Location Big River

Lab No.	Filter ID	Date	Site	µg Pb/Filter	µg Cd/Filter	Date - Analyst
124304	8607951	08/13/12	#4 Primary	48	< 10	09/06/12 - DS
124305	8607942	08/14/12	#4 Primary	72	< 10	09/06/12 - DS
124306	8607952	08/14/12	#4 QA	57	< 10	09/06/12 - DS
124307	8607934	08/15/12	#4 Primary	77	< 10	09/06/12 - DS
124308	8607923	08/16/12	#4 Primary	56	< 10	09/06/12 - DS
124309	8607924	08/16/12	#4 QA	57	< 10	09/06/12 - DS
124310	8607915	08/17/12	#4 Primary	34	< 10	09/06/12 - DS

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ANALYSIS REPORT

Client Information:

Barr Engineering Company
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Chain of Custody No.: 12-0921
Date Received: 09/12/12
Analysis Method: 40 CFR §50
Appendix G

Location Big River

Lab No.	Filter ID	Date	Site	µg Pb/Filter	µg Cd/Filter	Date - Analyst
124477	8607904	08/20/12	#4 Primary	51	< 10	09/19/12 - DS
124478	8611295	08/21/12	#4 Primary	68	< 10	09/19/12 - DS
124479	8607905	08/21/12	#4 QA	72	< 10	09/19/12 - DS
124480	8611286	08/22/12	#4 Primary	80	< 10	09/19/12 - DS
124481	8611277	08/23/12	#4 Primary	108	< 10	09/19/12 - DS
124482	8611278	08/23/12	#4 QA	110	< 10	09/19/12 - DS
124483	8611267	08/24/12	#4 Primary	32	< 10	09/19/12 - DS

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ANALYSIS REPORT

Client Information:

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Chain of Custody No.: 12-0922
Date Received: 09/14/12
Analysis Method: 40 CFR §50
Appendix G

Location Big River

Lab No.	Filter ID	Date	Site	µg Pb/Filter	µg Cd/Filter	Date - Analyst
124524	8611258	08/27/12	#4 Primary	52	< 10	09/27/12 - DS
124525	8611249	08/28/12	#4 Primary	30	< 10	09/27/12 - DS
124526	8611259	08/28/12	#4 QA	29	< 10	09/27/12 - DS
124527	8611240	08/29/12	#4 Primary	83	< 10	09/27/12 - DS
124528	8611229	08/30/12	#4 Primary	20	< 10	09/27/12 - DS
124529	8611230	08/30/12	#4 QA	19	< 10	09/27/12 - DS
124530	8611219	08/31/12	#4 Primary	< 10	< 10	09/27/12 - DS

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Meteorological Data

